6JE6

Beam Power Tube

NOVAR TYPE

For Color-TV Horizontal-Deflection Amplifier Applications

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	2.500	amp
Peak heater-cathode voltage:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200[a] max.	volts

Direct Interelectrode Capacitances (Approx.):[b]

Grid No.1 to plate	0.44	pf
Grid No.1 to cathode, grid No.3, grid No.2, and heater	21.0	pf
Plate to cathode, grid No.3, grid No.2, and heater	11.0	pf

Characteristics, Class A1 Amplifier:

	Triode Connection	*Pentode Connection*		
Plate Voltage	125	70	175	volts
Grid No.3	*Connected to cathode at socket*			
Grid-No.2 Voltage	125	125	125	volts
Grid-No.1 Voltage	-25	0	-25	volts
Amplification Factor	3.3	–	–	
Plate Resistance (Approx.)	–	–	5500	ohms
Transconductance	–	–	10500	μmhos
Plate Current	–	580[c]	115	ma
Grid-No.2 Current	–	40[c]	5	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1	–	–	-55	volts

Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	4.600"
Seated Length	4.090" ± 0.130"
Diameter	1.438" to 1.562"
Bulb	T12
Cap	Small (JEDEC No.C1-1)
Socket	Cinch Mfg. Co. No.149 19 00 033, Industrial Electronic Hardware Corp. No.SO-0968-SL1, or equivalent

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Base. . . . . .Large Button Novar 9-Pin (JEDEC No.E9-76)
Basing Designation for BOTTOM VIEW. 9QL

Pin 1 - Grid No.2		Pin 6 - Grid No.1
Pin 2 - Grid No.1		Pin 7 - Grid No.2
Pin 3 - Cathode		Pin 8 - Grid No.3
Pin 4 - Heater		Pin 9 - Do Not Use
Pin 5 - Heater		Cap - Plate

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[d]

DC PLATE-SUPPLY VOLTAGE	990	max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE[e]. . . .	7000	max.	volts
PEAK NEGATIVE-PULSE PLATE VOLTAGE	1100	max.	volts
DC GRID-No.3 VOLTAGE (See *Operating Considerations*).	75	max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE. . . .	190	max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE.	250	max.	volts
CATHODE CURRENT:			
Peak.	1100	max.	ma
Average	315	max.	ma
GRID-No.2 INPUT	3.2	max.	watts
PLATE DISSIPATION[f].	24	max.	watts
BULB TEMPERATURE (At hottest point on bulb surface). . .	240	max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:			
For grid-resistor bias operation[f] . . .	0.47	max.	megohm
For plate-pulsed operation (horizontal-deflection circuits only).	10	max.	megohms

[a] The dc component must not exceed 100 volts.

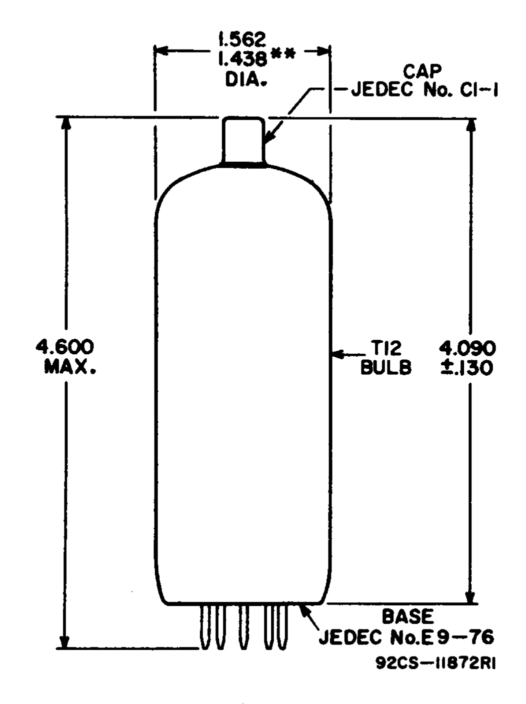
[b] Without external shield.

[c] This value can be measured by a method involving a recurrent wave form such that the plate dissipation, grid-No.2 input, and cathode current will be kept within ratings in order to prevent damage to the tube.

[d] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

[e] This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

[f] It is essential that the plate dissipation be limited in the event of loss of grid signal. For this purpose, some protective means such as a cathode resistor of suitable value should be employed.



ALL DIMENSIONS IN INCHES

** APPLIES IN ZONE STARTING 0.375" FROM BASE SEAT.

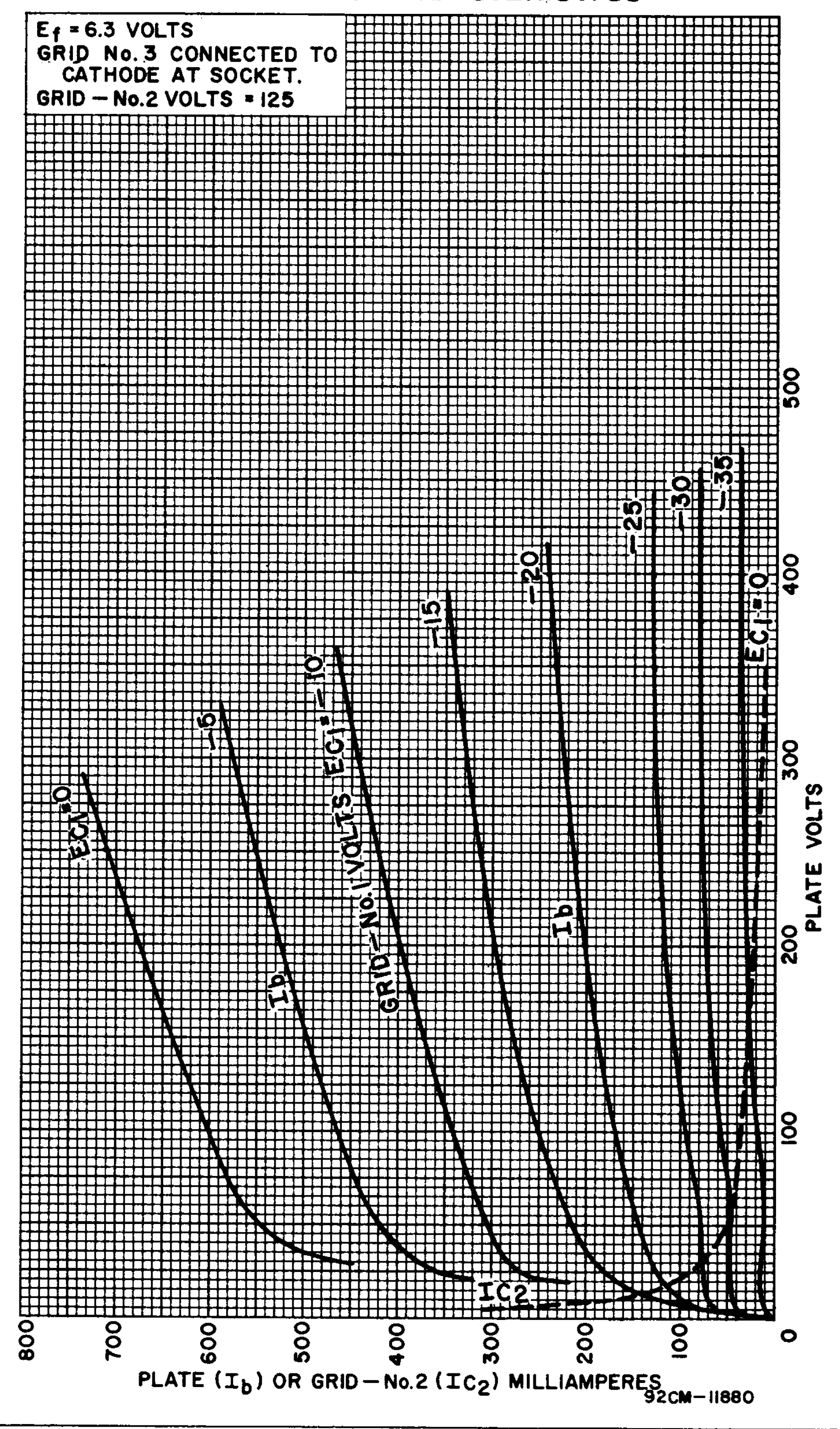
OPERATING CONSIDERATIONS

In *horizontal-deflection amplifier service* a positive voltage may be applied to grid No.3 to minimize "snivets" interference which may occur in both uhf and vhf television receivers. A typical value for this voltage is 30 volts.

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AVERAGE CHARACTERISTICS





AVERAGE CHARACTERISTICS
Ef = 6.3 VOLTS
GRID No. 3 CONNECTED TO CATHODE AT SOCKET.
GRID — No.2 VOLTS = 125
GRID—No.1 VOLTS Ec1 = −10
Ec1 = 0
−5
−15
−20
−25
−30
−35
Ib
Ic2
PLATE VOLTS
PLATE (Ib) OR GRID — No.2 (Ic2) MILLIAMPERES
92CM—11880